

**In the Drawings**

There are no amendments to the drawings.

**Remarks**

Applicant has amended claims 1 and 14, and has added new claims 18 and 19. Applicant respectfully submits that no new matter was added by the amendment, as all of the amended matter was either previously illustrated or described in the drawings, written specification and/or claims of the present application. (See e.g., FIGS. 2-4 illustrating different ways to assemble an insert piece into the bottom plane of the bearing recess or into the bearing disk; See also, claim 4.) Entry of the amendment and favorable consideration thereof is earnestly requested.

Claim 1 requires "said substrate holder having a first zone and a second zone, said first zone formed of a material having a higher electrical conductivity than the second zone, the first zone having a surface temperature ( $t_1$ ) and the second zone having a surface temperature ( $t_2$ ) when the substrate holder is heated by electrical conduction, where  $t_1$  is greater than  $t_2$ ."

Claim 14 requires among other limitations "a first substrate holder zone formed of a material exhibiting a first electrical conductivity and having a surface temperature ( $t_1$ ) when the substrate holder is heated by electrical conduction" and "a second substrate holder zone formed of a material exhibiting a second electrical conductivity, said first electrical conductivity being higher than the second electrical conductivity, second substrate holder zone having a surface temperature ( $t_2$ ) when the substrate holder is heated by electrical conduction, where  $t_1$  is greater than  $t_2$ ."

The Examiner has submitted that "neither claim 1 nor 14 specifically claim that the size of the zone and the size of the substrate is the same." (Official Action, 12/28/06, p. 3.) Applicant submits that claim 1 recites "the first zone of higher electrical conductivity substantially corresponds to an area of the supported surface of the substrate", while claim 14 recites "said first substrate holder zone substantially corresponding to an area taken up by the substrate."

The Examiner has further submitted that "the inclusion of the substrate or article worked upon by a structure being claimed does not impart patentability to the claims." (*Id.*) Applicant has not suggested this is the case. In fact, Applicant has not positively recited the substrate. Rather, Applicant has merely drawn attention to the relative size of the zone of higher conductivity, which is positively recited.

**U.S. Patent Application Publication No. 2001/0052324 ("the Rupp application")**

The Rupp application fails to teach, disclose or suggest the above-listed limitations. For example, rather than creating two temperature zones where the first is a higher temperature than the second, the Rupp application discloses "as a result the thermal boundary conditions for the environment surrounding the substrate are the same as those for the substrate itself . . . the heat is transferred from the support, i.e. from the susceptor, to the SiC covering and the SiC substrate by radiation with substantially the same thermal coupling. This makes the temperature distribution on the substrate and in its immediate vicinity more homogeneous." (Par. 22.) In addition, the Rupp application states that "it is necessary for the temperature to be as identical as possible throughout, even in the area surrounding the substrate. In other words, the temperature on the freely accessible surface of the substrate must be the same as on the surface of the covering 5." (Par. 44.) Therefore, while the Rupp application discloses that the temperature of the thermal boundary conditions for the environment surrounding the substrate is the same as that of the substrate itself, claims 1 and 14 each positively claim a first zone having a surface temperature ( $t_1$ ) and a second zone having a surface temperature ( $t_2$ ), where  $t_1$  is greater than  $t_2$ . It is well settled that "a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). In this case, the Rupp application fails to disclose two temperature zones where the temperature of the first exceeds the temperature of the second. Accordingly, the Rupp application cannot anticipate claims 1 or 14.

It is well settled that the mere fact that references can be modified does not render the resultant modification obvious unless the prior art also suggests the desirability of the modification. *See, e.g.,* MPEP 2143.01; *In re Mills*, 916 F.2d 680, 682, 16 USPQ2d 1430, 1432 (Fed. Cir. 1990) (fact that prior art “may be capable of being modified to run the way the apparatus is claimed, there must be some suggestion or motivation in the reference to do so.”). In the present case, Applicant respectfully submits that the Rupp application expressly teaches away from the limitations of claims 1 and 14 teaching that it is important to make “the temperature distribution on the substrate and in its immediate vicinity more homogeneous.” (Par. 22.) This is directly contrary to the limitations of the pending claims that recite two temperature zones that have different temperatures. MPEP 2143.01; *In re Gordon*, 733 F.2d 900, 221 USPQ2d 1125 (Fed. Cir. 1984) (If the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.)

Accordingly, the Rupp application cannot render claims 1 or 14 obvious either alone or in combination with another reference as the Rupp application directly rejects forming two temperature zones having differing temperatures as recited in claims 1 and 14.

**U.S. Patent No. 6,740,167 (“the Rupp patent”)**

Applicant respectfully submits that the Rupp patent also fails to teach or suggest two zones where the temperature of the first zone is higher than the temperature of the second zone. For example, the Rupp patent teaches that the “susceptor 1 is preferably produced from graphite so that the susceptor has an optimum thermal conductivity and the corresponding optimum electrical properties for an induction heating.” (Col. 4, Ins. 46-49.) Nowhere does the Rupp patent teach or suggest creating two temperature zones where the temperature zone holding the substrate is higher than the surrounding zone.

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. See, e.g., MPEP 2143.01 ("The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination."); *In re Mills*, 916 F.2d 680, 682, 16 USPQ2d 1430, 1432 (Fed. Cir. 1990) (fact that prior art "may be capable of being modified to run the way the apparatus is claimed, there must be some suggestion or motivation in the reference to do so."). In the present case, Applicant respectfully submits that the Rupp patent is absolutely silent on generating differing temperature zones due to one zone being formed with a higher electrical conductivity. In fact, the Rupp patent is very similar to the Rupp application by the exact same inventors, where both are concerned with minimizing contaminants introduced into the process chamber. (See, Rupp patent Col. 2, Ins. 49-64 and Rupp application Pars. 10 & 17.) There must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the motivation and that knowledge can not come from the applicant's invention itself. *In re Oetiker*, 977 F.2d, 1443, 1447 (Fed. Cir. 1992). See also *In re Vaeck*, 947 F.2d 488, 493, 20 U.S.P.Q.2d 1438, 1442 (Fed. Cir. 1991) (suggestion to modify must be found in the prior art, not the applicant's disclosure). Accordingly, as the Rupp patent is absolutely silent with regard to providing a first substrate holder zone having a surface temperature ( $t_1$ ) and a second substrate holder zone having a surface temperature ( $t_2$ ) when the substrate holder is heated by electrical conduction, where  $t_1$  is greater than  $t_2$ , the Rupp patent cannot for the basis of an obvious objection for these limitations. In fact, as the inventions in the Rupp patent and the Rupp application are very similar and by the same inventors, it is highly probable that the invention in the Rupp patent cannot be modified according to pending claims 1 and 14.

**U.S. Patent No. 5,788,777 ("the Burk, Jr. patent")**

Applicant notes that the Examiner has cited the Burk, Jr. patent for teaching use of a HF heater. (Official Action 12/28/06, p. 10.) The Burk, Jr. patent, like the Rupp patent, is absolutely silent with regard to providing a first substrate holder zone having a surface temperature ( $t_1$ ) and a second substrate holder zone having a surface temperature ( $t_2$ ) when the substrate holder is heated by electrical conduction, where  $t_1$  is greater than  $t_2$ , and as such, cannot form the basis for an obviousness rejection of these limitations. See, e.g., MPEP 2143.01 ("The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination."); *In re Mills*, 916 F.2d 680, 682, 16 USPQ2d 1430, 1432 (Fed. Cir. 1990).

Accordingly, Applicant respectfully submits that no combination of the Burk Jr. patent with the Rupp patent can render claims 1 and 14 obvious. In addition, Applicant respectfully submits that no combination of the Burk, Jr. patent with the Rupp application can render claims 1 and 14 obvious, and in fact, the Rupp application teaches away from the limitations of claims 1 and 14.

#### **New claims 18 and 19**

All of the arguments presented in connection with claims 1 and 14 also apply to new claims 18 and 19. In addition to the above-listed arguments, claim 18 recites "a substrate holder having one or more substrate-bearing disks mounted on a gas bearing and each having an associated insert piece." Claim 19 recites "a substrate holder having one or more substrate-bearing disks mounted on a gas bearing and each having an associated insert piece positioned beneath the associated substrate-bearing disk to form a bottom of the bearing recess." Applicant respectfully submits that none of these above-listed limitations are disclosed, taught or suggested in the cited prior art.

It is respectfully submitted that claims 1 and 3-19, all of the claims remaining in the application, are in order for allowance and early notice to that effect is respectfully requested.

Respectfully submitted,

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